



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/674,022	02/14/2001	Frank Kowalewski	10191/1554	8945
26646	7590	07/19/2006	EXAMINER	
KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004			CHANG, EDITH M	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary	Application No.		Applicant(s)	
	09/674,022		KOWALEWSKI, FRANK	
	Examiner		Art Unit	
	Edith M. Chang		2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 9, 2006, has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleider et al (US 6,084,919) in view of Bruckert et al. (US 5,822,359) and Klein et al. ("Zero Forcing and Minimum Mean-Square-Error Equalization for Multiuser Detection in Code-Division Multiple-Access Channels" IEEE Trans. Vehic. Tech., Vol.45 1996, pp 276-287).

Regarding **claims 10 & 14**, in FIG. 1 and FIG.2, Kleider et al. discloses an apparatus and its method, the elements 202 & 204 of FIG. 1 (or elements 12 & 16 of FIG.2 which is the detail of the FIG. 1).

The apparatus comprises: *a modulator* (FIG. 1 block 212 or FIG.2 block 24); *a channel estimator* (*transmit parameter determination*, FIG. 1 element 214 or FIG.2 element 26) coupled to the modulator. In FIG.1, the channel estimator (transmit parameter determination unit 214) determines optimal parameters for the transmit signal (column 3 lines 50-60 '919), so basing on information received from the channel estimator the modulator performs the pre-equalization.

However, Kleider et al. does not explicitly show the code generator for the CDMA the technique that the Kleider et al.'s system implemented for (column 2 lines 50-65 '919) and the pre-equalization taking into account radio channel interference corresponding to at least one of intersymbol interference and multiple access interference.

Regarding the code generator, further Bruckert et al. teaches and shows *the code generator* coupled to the modulator to generate all of the different codes of mobiles in FIG. 1 block 116 (column 2 lines 30-35 and column 10 lines 31-40 '359). As Kleider et al.'s unit for CDMA system, it provides the code generator generating all different codes of different users that the unit needs to communicate with (FIG.5 and column 10 lines 5-20 '919). Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the code generator coupled to

Art Unit: 2611

modulator taught by Bruckert et al. in Kleider et al. 's unit for the purpose of generating spread codes for the different users in order to communicate with all users in the radio channels in the mobile cellular system.

Regarding the pre-equalization taking into account radio channel interference corresponding to at least one of intersymbol interference and multiple access interference, further Klein et al. teaches the pre-equalization in the data estimation (Fig.1 IEEE) of the modulator taking into account radio channel interference corresponding to at least one of intersymbol interference and multiple access interference (III. Data Estimation Techniques, page 218, right column III.A., the first paragraph). As Kleider et al.' system is avoiding inter-system interference (column 1, lines 21-24 '919), other interferences caused by the transmission (column 1 lines 32-37 '919), and intentional and unintentional interferences (column 1, lines 38-45 '919). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the pre-equalization taking into account at least one of intersymbol interference and multiple access interference taught by Klein et al. in Kleider et al.'s modulator to have a better performance equalization technique to reduce interferences (V. Conclusion, page 286 IEEE).

Regarding claims **11-12 & 15-16**, In FIG.5 and column 10 lines 5-20, Kleider et al. discloses the data is transmitted from the base station to the mobile stations and from the mobile stations to the mobile station.

Regarding **claim 17**, In FIG.5 (column 10 lines 5-20), Kleider et al. discloses a system comprising: a base station (element 62) and mobile stations (communicators 60

Art Unit: 2611

and 64). The base station and mobile stations have the same structure as the communication unit shown in FIG. 1 or FIG.2, wherein the base station or the mobile station comprises both the transmitting unit and receiving unit: element 202 FIG. 1 or element 12 FIG.2 is the transmitting unit, element 204 FIG. 1 or element 16 FIG.2 is the receiving unit. Therefore Kleider et al. discloses the invention 'of the claim as cited (refer to the rationale of the rejection of claims 10 & 14).

Regarding **claims 13 & 18**, In FIG. 1, Kleider et al. discloses the transmit parameter determination block 214 (or the channel classification monitor block 26 of FIG.2) ascertaining the channel properties from data transmissions from the block 204 to the block 202 (or from block 16 to block 12 in FIG.2), wherein the block 202 of FIG. 1 (block 12 of FIG.2) is in the base station, the block 204 of FIG. 1 (block 12 of FIG.2) is in the mobile station.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M. Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed H. Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Edith Chang
July 13, 2006

A handwritten signature in cursive script, appearing to read 'Edith Chang', written in black ink.